Amendments to the Claims:

Claims 1-10 (canceled)

11. (New) A binary single phase titanium-zirconium alloy suitable for the production of surgical implants, with a zirconium content of less than 25% by weight but more than 5% by weight, comprising 0.1% to 0.3% by weight of oxygen as a strength enhancing additive and not more than 1% by weight of other strength enhancing additives and technical impurities, the alloy being obtainable by a process involving the following steps:

(i) hot forging said alloy at a temperature above alpha/beta phase transition; and

(ii) rapidly cooling said alloy to obtain the single phase titanium-zirconium alloy.

12. (New) The titanium-zirconium alloy as claimed in claim 11, wherein the alloy is subsequently cold processed.

13. (New) Titanium-zirconium alloy as claimed in claim 11, wherein the zirconium content is less than 19% by weight (corresponding to 11 atomic %) but more than 10% by weight (corresponding to 5.5 atomic %).

14. (New) Titanium-zirconium alloy as claimed in claim 11, wherein the zirconium content is 14-15% by weight.

15. (New) A device selected from the group consisting of implants in dental surgery, abutments and elements for suprastructrues comprising the titanium-zirconium alloy of claim 11.

16. (New) Process for production of the allow of claim 11, wherein the forging process is carried out at temperatures above 850°C, the alloy is then cooled rapidly and subsequently cold worked.

17. (New) A surgical implant comprising the titanium-zirconium alloy of claim 11.

18. (New) An implants for dental surgery, abutments and elements for suprastructures as in Claim 17.

19. (New) The titanium-zirconium alloy as in claim 11, wherein the alloy is hot forged and/or cold worked prior to processing into an implant.

20. (New) A process for producing the titanium-zirconium alloy of claim 11 comprising:

(a) forging the alloy in the range of alpha/beta phase transition at 770°C to 830°C;

(b) cooling the alloy rapidly; and

(c) cold working the alloy.

21. (New) The titanium-zirconium alloy as in claim 11, comprising up to 0.5% by weight of hafnium as part of said technical impurities.